

REMARKS

Claims 9, 10, 21, 22, 25 and 27 have been amended. Claims 9-12, 14-17 and 19-28 are currently pending. Applicants reserve the right to pursue the original and other claims in this and in other applications. Applicants respectfully request reconsideration in light of the following remarks.

Applicants gratefully acknowledge the allowance of claims 25-28 and the indication of allowable subject matter in claims 23 and 24.

Claims 21-24 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Reconsideration is respectfully requested. Claims 21 and 22 have been amended to address the Examiner's concerns regarding antecedent basis. Claims 23 and 24 depend from claims 21 and 22, respectively. Applicants respectfully request the rejection be withdrawn and the claims allowed.

The Specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. Reconsideration is respectfully requested. The Specification has been amended to provide explicit antecedent basis for the claim language. No new matter is added by this amendment. Applicants respectfully request the objection be withdrawn.

Claims 9, 10, 12, 14, 15, 17 and 19-22 stand rejected under 35 U.S.C. §102(b) as being anticipated by Thieme et al. (U.S. Appl. Pub. 2003/0036482) ("Thieme"), or in the alternative, under 35 U.S.C. §103(a) as being obvious over Thieme. This rejection is respectfully traversed and reconsideration is respectfully requested.

Applicants respectfully submit that Thieme does not disclose, or render obvious, an intermediate layer that operates as a junction auxiliary material as a brazing material that is electrically and mechanically unified metallurgically with the metal base member and the tubular-shaped metal cladding layer of the compound sheath in a unitary block.

As previously discussed in the response filed March 8, 2011, using a “brazing material” for brazing (welding) results in a joining bond between materials that is a “metallurgical bond (involving some diffusion) rather than just mechanical.” Thieme simply does not disclose, or render obvious, this feature. The Examiner relies on the “metal matrix” of Thieme as disclosing this claim feature. Office Action, pg. 5. However, Applicants respectfully submit that the “metal matrix” of Thieme refers to a general material (e.g., copper metal or compound) provided between the Mg-B regions and the copper regions, but does not disclose a “junction auxiliary material” as claimed. As would be recognized by one of skill in the art, the claimed “junction auxiliary material,” on the other hand, is a particular type of material that operates to unify different materials through diffusion bonding, as discussed above. Thieme simply does not disclose this feature, as the “metal matrix” of Thieme does not provide this important function, nor are appropriate materials disclosed. Accordingly, Applicants submit that the claims are allowable over Thieme.

The Office Action asserts that due to the heat treatment that takes place, the claimed junction auxiliary material would be inherent. Office Action, pg. 6. Applicants respectfully disagree. Applicants note that this heat treatment, discussed at ¶[0095] of Thieme, occurs before the laminate (upon which the Examiner relies as disclosing the claimed metal base) is even a part of the structure. See, Thieme, ¶[0097] (where the Mg-B/copper billets are further drawn and a plurality thereof are re-bundled into another billet). Therefore, the heat treatment could not inherently cause the metal matrix copper layer to be “electrically and mechanically unified metallurgically ... in a unitary block” with the laminate (which has not yet been applied) and the diffusion barrier (upon which the Examiner relies as disclosing the claimed tubular-shaped metal cladding layer).

Accordingly, Applicants respectfully submits that claims 9, 10, 21 and 22 are allowable over Thieme. Claims 12, 14, 15, 17, 19 and 20 depend from these claims and are allowable along with these claims as well as for other reasons. Applicants respectfully request the rejection be withdrawn and the claims allowed.

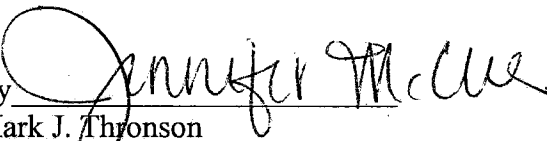
Claims 11 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Thieme in view of Nakahara et al. (U.S. Patent No. 6,337,307) ("Nakahara"). This rejection is respectfully traversed and reconsideration is respectfully requested.

Claims 11 and 16 depend from claims 21 and 22, respectively, which are allowable over Thieme for at least the reasons discussed above. Nakahara is relied on as disclosing "a superconductor ... where a plurality of single-core wires are assembled into a base metal and are twisted" (Office Action, pg. 8), but does not remedy the deficiencies of Thieme, discussed above. Accordingly, Applicants respectfully submit that claims 21 and 22, along with claims 11 and 16, are allowable over the cited combination. Applicants respectfully request the rejections be withdrawn and the claims allowed.

In view of the above, Applicants believe the pending application is in condition for allowance.

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Respectfully submitted,

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